

REMARKS/ARGUMENTS

Claims 1-25 have been resubmitted. Claims 1, 6-11, 13, 15, 16, and 25 have been amended. No Claims have been canceled. No New Claims have been added.

The Examiner objected to Claim 8 because of an informality. The Examiner rejected Claim 13 under 35 U.S.C. § 112 regarding antecedent basis.

The Examiner rejected Claims 6-8 and 15-24 under 35 U.S.C. § 102(b) as being anticipated by Foote, et al. (U.S. Patent No. 6,008,826; "Foote"). Additionally, the Examiner rejected Claims 10-11 and 13 under 35 U.S.C. § 102(b) as being anticipated by Daniele, et al. (U.S. Patent No. 4,837,636; "Daniele").

The Examiner rejected Claim 25 under 35 U.S.C. § 103(a) as being unpatentable over Foote and Agano (U.S. Patent No. 5,930,567; "Agano"). Furthermore, the Examiner rejected Claims 12 and 14 under 35 U.S.C. § 103(a) as being unpatentable over Daniele and Tsuruoka et al. (U.S. Patent No. 6,160,978; "Tsuruoka"). Additionally, the Examiner rejected Claims 1-5 under 35 U.S.C. § 103(a) as being unpatentable over Daniele and Foote. The Examiner rejected Claim 9 under 35 U.S.C. § 103(a) as being unpatentable over Daniele and Agano.

The Examiner rejected Claim 10 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 4,837,636. The Examiner also rejected Claim 13 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 6 of U.S. Patent No. 4,837,636.

Amendment to the Specification

Applicants have amended Paragraph [0053] by changing “fiducial” to “fiduciary.” This amendment has not been made to avoid prior art, but to correct a typographical error.

Amendments to the Claims**Claim 8 (Informality):**

Applicants have amended Claim 8 by inserting the words “further comprising” to address the informality mentioned by the Examiner. This amendment is not made to avoid prior art. Applicants request that the Examiner enter the amendment of Claim 8 and remove the objection.

Claim 13:

The Examiner rejected Claim 13, stating: “Claim 13 recites the limitation ‘the recording member’ in page 23, line 1. There is insufficient antecedent basis for this limitation in the claim.” The Examiner did not indicate under which paragraph of 35 U.S.C. § 112 the Examiner based the rejection. Applicants assume that the Examiner rejected Claim 13 under 35 U.S.C. § 112(b) and has acted accordingly.

Applicants have amended Claim 13 by replacing “recording member” with “photoconductor member.” This amendment is not made to avoid prior art. Applicants also have amended Claim 13 by correcting a typographical error. Applicants request that the Examiner enter this amendment and remove the rejection under § 112.

35 U.S.C. § 102 Rejections**Claims 6-8 and 15-24:****Foote, et al. (U.S. Patent No. 6,008,826; "Foote")**

The Foote document appears to disclose a system for controlling color plane image alignment in a printer wherein alignment is achieved by imprinting alignment marks directly on a belt that carries and/or drives media sheets. (Abstract, lines 1-5).

However, the Foote document does not appear to disclose using a code strip on a belt as claimed in Claim 6, let alone sensing a code strip on the belt, as also claimed in Claim 6. The Foote document also does not disclose transferring toner particles onto the belt as a function of a position signal, as claimed in Claim 6. Additionally, The Foote document does not disclose sensing the code strip with at least one sensor to produce a first position signal. Furthermore, the Foote document does not appear to disclose (but appears to teach away from) transferring a second toner particle onto the first toner particle, as claimed in Claim 6.

Claim 6:

The Examiner rejected Claim 6 under 35 U.S.C. § 102(b) as being anticipated by the Foote document, stating:

"Regarding claim 6, Foote et al. teach (column 4, lines 50-51), RAM 66 that stores an image as four individual color sub-images which inherently includes overlapping of individual colors to produce a color image of more than four colors. More specifically, two colors can be laid one on top of the other to create the complete and correct color image combined from all of the individual color sub-images." (Office Action, Page 2, lines 22-25).

Applicant respectfully traverses this rejection. The Foote document does not appear to disclose the subject matter of Claim 6, as described above. In particular, the Foote document does not appear to disclose transferring a second toner particle onto the first toner particle, as claimed at line 10 of Claim 6, as amended.

The Foote document does not show the identical invention in as complete detail as is contained in Claim 6. *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 U.S.P.Q.2d 1913, 1920 (Fed. Cir. 1989); M.P.E.P. § 2131. The Foote document does not anticipate Claim 6, as each and every element of the claimed invention does not seem to be disclosed in the Foote document. Furthermore, Applicants cannot find that the Foote document discloses the claimed invention as being arranged as in Claim 6. *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 221 U.S.P.Q. 481, 485 (Fed. Cir. 1984).

Inherent anticipation, relied on by the Examiner, requires that the missing descriptive material is “necessarily present,” not merely probably or possibly present, in the prior art. *In re Robertson*, 169 F.3d 743, 745, 49 U.S.P.Q.2d 1949, 1950-1951 (Fed. Cir. 1999). See *Trintec Industries v. Top-U.S.A. Corp.*, 295 F.3d 1292, U.S.P.Q.2d (BNA) 1597 (Fed. Cir. 2002).

The printing process described in the Foote document may be conducted without overlapping toner particles. Multicolor printers, in general, may transfer toner to create color output without overlapping toner particles (such as by depositing toner particles or ink droplets close together with image rasterization and other imaging techniques to create various colors). Indeed, the Manual of Patent Classification accords the overlapping of toner particles to a separate sub-class of 399/231 (“Toner images overlapped: This subclass is indented under subclass 223. Subject matter wherein a second or subsequent toner images is developed on the previously developed image(s).”). Consequently, Applicants respectfully submit that the overlapping of toner particles is not inherent to multicolor printing.

Applicants respectfully request that the Examiner provide the basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic *necessarily* flows from the teachings of the Foote document. *Ex Parte Levy*, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in original); M.P.E.P. § 2112.

Instead of disclosing overlapping of toner particles, the Foote document appears to teach away from transferring any toner particle onto any other toner particle. Figures 4 and 6 of the Foote document display four colors transferred onto a surface without overlap (“In the example shown in Fig. 6, the alignment marks printed by the Cyan (C) developer station are offset in the process direction only. The Magenta (M) plane alignment marks are offset in the scan direction only and the Yellow (Y) plane alignment marks are offset in both the process and the scan direction.” (Col. 5, lines 48-55).

Claim 6 was amended by deleting words from lines 10-11. This amendment was not made to avoid prior art. Applicant respectfully submits that amended Claim 6 is patentably distinguished over the Foote document for at least the foregoing reasons. Therefore, Applicants respectfully request entrance of this amendment, removal of the rejection, and allowance of amended Claim 6.

Claims 7-8:

Claims 7 and 8 were amended by deleting words and inserting “further comprising” for clarity. The amendments of Claims 7 and 8 were not made to avoid prior art. Applicant further respectfully submits that Claims 7 and 8 are now also patentable over the Foote document (Claim 7 and 8 are dependent upon independent claim 6, as amended). Thus, Applicant requests that the Examiner remove the rejection to Claims 7-8 and allow Claims 7-8.

Claim 15:

Additionally, the Foote document does not appear to disclose or suggest a method comprising “sensing fiduciary markings on a code strip, the code strip moving with the photoconductor belt”, as claimed at lines 6-7 of independent claim 15, as amended.

In particular, the Foote document does not seem to disclose or suggest a code strip. Applicant respectfully notes that the relevant portion cited by the Examiner (col. 57, lines 29-34) does not appear to disclose or suggest the code strip as claimed in Claim 15, let alone any code strip at all. Please note that, at a minimum, the Foote document does not seem to disclose or suggest a code strip that moves with a photoconductor belt.

The insertion of the subject matter, of the code strip moving with the photoconductor belt, is not new matter and this subject matter is supported in the original application at Paragraph [0018] (“Using a code strip obviates the need for an encoder wheel or roller, as the strip rides along with the OPC belt in concert with the belt’s motion. . . . Using a code strip that moves with the belt provides more accurate data about the belt motion”) and at Paragraph [0048] (“As the code strip and OPC belt proceed in direction C”).

Thus, Applicant respectfully submits that independent claim 15, as amended, is patentable over the Foote document.

Claims 16-25:

Applicant further respectfully submits that the respective dependent claims 16-25 are now also patentable over the Foote document, for at least the reasons stated above. Thus, Applicant requests that the Examiner remove the rejection to Claims 15-25 and thereafter allow Claims 15-25.

Daniele, et al. (U.S. Patent No. 4,837,636; "Daniele")

The Daniele document appears to disclose a copying/printing machine containing a photoreceptor with a row of holes ("image marks"), a CCD array spaced opposite to and aligned with the row of holes. (Abstract, lines 1-4; Col. 5, lines 55-60).

However, the Daniele document does not appear to disclose the fiduciary marks being located on a code strip on a belt as claimed at line 3 of Claim 10, as amended. The Daniele document also does not disclose a system wherein the sensor detects light reflected from the code strip to track the movement of the photoconductor member, as claimed at lines 17-19 in Claim 10, as amended.

The Examiner rejected Claims 10-13 under 35 U.S.C. § 102(b) as being anticipated by the Daniele document.

Claim 10:

Applicant respectfully traverses the rejection of Claim 10. The Daniele document does not appear to disclose the subject matter of Claim 10, as described above. In particular, the Daniele document does not appear to disclose fiduciary marks on a code strip, let alone any code strip, as claimed at line 3 of Claim 10, as amended. Additionally, the Daniele document does not appear to disclose light reflecting from the code strip, as claimed at lines 17-19 of Claim 10, as amended. Indeed, if (for the sake of arguing) the row of holes 82, disclosed in the Daniele document, is considered to be a code strip, the holes cannot be considered capable of reflecting light.

Claim 10 was amended by deleting words for clarity and adding subject matter relating to the fiduciary marks being located on a code strip. This

amendment was not made to avoid prior art. The insertion of the subject matter, of the fiduciary marks being located on a code strip, is not new matter and this subject matter is supported in the original application at Paragraph [0057] ("fiduciary marks located on the code strip 306. The code strip 306 may include a defined number of fiduciary marks within the code strip 306").

Claim 10 was also amended by adding subject matter regarding sensing light reflected from the code strip. This amendment was not made to avoid prior art. The insertion of the subject matter, sensing light reflected from the code strip, is not new matter and this subject matter is supported in the original application at Paragraph [0042] ("A light detector 38, adjacent to the code strip and in a position to detect light reflected from the code strip, detects the individual light signals corresponding to the movement of the OPC belt 12. The light detector 38 produces an electric signal that is conveyed to a controller (not shown), which determines the precise time to actuate the individual light sources 223 to selectively discharge areas of the OPC belt 12."), at Paragraph [0044] ("It will be understood that the sensor 36 can be any suitable device for sensing the motion of the OPC belt 12 from the fiduciary markings and generating a digital signal representative of the motion including, for example, photo-detecting, magnetic or capacitive devices for sensing the displacement of the OPC belt 12. The sensor 36 may detect the light pulses from the code strip to track the movement of the OPC belt 12 and generate a digital signal corresponding thereto"), at Paragraph [0046] ("If the belt travels uniformly, the light detector detects a sequence of regular periodic signals corresponding to the reflections between the fiduciary marks."), and at Paragraph [0048- ("Light from the light source reflects from in between each mark. The reflected light is detected at the respective light detector. As each light signal registers, the number of marks is counted. The number of marks represents belt movement, which can be used to determine belt velocity with the respective elapsed time.").

Applicant respectfully submits that amended Claim 10 is patentably distinguished over the Daniele document for at least the foregoing reasons.

Therefore, Applicants respectfully request entrance of this amendment, removal of the rejection, and allowance of amended Claim 10.

Claim 11:

Applicant respectfully traverses the rejection of Claim 11, as the Daniele document does not appear to disclose the subject matter of Claim 11, as amended. In particular, the Daniele document does not appear to disclose fiduciary marks on a code strip that are translucent or transparent and alternating with opaque or translucent marks, as claimed at lines 3 and 4 of Claim 11, as amended.

Claim 11 was amended by deleting words for clarity and adding subject matter relating to fiduciary marks on a code strip that are translucent or transparent and alternating with opaque or translucent marks. This amendment was not made to avoid prior art. The insertion of the subject matter, of the fiduciary marks on a code strip that are translucent or transparent and alternating with opaque or translucent marks, is not new matter and this subject matter is supported in the original application at Paragraph [0053] ("While discrete markings 308, 309 are illustrated and described herein, transparent or translucent fiducial marks, alternating with opaque or translucent marks, may be envisioned.").

Thus, Applicant respectfully submits that Claim 11, as amended, is patentable over the Daniele document for at least the foregoing reasons. Additionally, Claim 11 is dependent upon independent Claim 10, which is patentable over the Daniele document, as explained above. Applicant further respectfully submits that the respective dependent claim 12 is now also patentable over the Daniele document. Therefore, Applicants respectfully request entrance of this amendment, removal of the rejection, and allowance of amended Claim 11 and original Claim 12.

Claim 13:

Independent Claim 13 has been amended for clarity and to add the subject matter added into amended Claim 10, as described above.

Thus, Applicant respectfully submits that independent claim 13, as amended, is patentable over the Daniele document, for at least the same reasons described above regarding Claim 10. Applicant further respectfully submits that the original dependent Claim 14 is now also patentable over the Daniele document. Thus, Applicant requests that the Examiner enter the amendments to Claim 13, remove the rejection to Claims 13 and 14, and find Claims 13 and 14 allowable.

35 U.S.C. § 103 RejectionsClaim 25:

The Examiner rejected Claim 25 under 35 U.S.C. § 103(a) as being unpatentable over Foote and Agano (U.S. Patent No. 5,930,567; "Agano").

Agano (U.S. Patent No. 5,930,567; "Agano")

The Agano document seems to disclose an image recording method for forming toner images of the same color. (Abstract, lines 1-2).

Applicants cannot find within the Foote document or the Agano document any disclosure, suggestion, or motivation regarding the code strip moving with the photoconductor belt, as claimed in independent Claim 15, at lines 6 and 7. As Claim 25 is dependent upon independent Claim 15, Applicants respectfully submit that Claim 25 is patentable over the Foote document and the Agano document because neither document discloses,

suggests, or motivates the subject matter of dependent Claim 25, including the subject matter of independent Claim 15.

Claim 15, as amended, claims sensing fiduciary markings on a code strip, wherein the code strip moves with the photoconductor belt (lines 6-7 of amended Claim 15). The code strip is affixed onto the photoconductor belt (lines 8-9 of amended Claim 15).

Thus, the record does not appear to establish the requisite motivation for combining the Foote document (media transport belt 22 in Figure 2) with the Agano document (photoreceptor drum 12 in Figures 1 and 2). The media transport belt 22 in the Foote document only physically transports media (such as copy paper). The media transport belt 22 does not actively react to light to act as a photoreceptor.

Therefore, Applicants respectfully request that the Examiner remove the rejection to Claim 25 (dependent upon independent Claim 15) and find Claim 25 allowable.

Claims 12 and 14:

The Examiner rejected Claims 12 and 14 under 35 U.S.C. § 103(a) as being unpatentable over Daniele and Tsuruoka et al. (U.S. Patent No. 6,160,978; "Tsuruoka"), stating:

"Regarding claim 12, Daniele et al. teach the apparatus of claim 10 or 11, but do not specifically teach the apparatus in which a movable photoconductor member comprises an endless photoreceptor belt.

However, Tsuruoka et al. teach an endless photoreceptor belt (column 8;line42 & figure 4, endless transfer belt 4)."

Tsuruoka et al. (U.S. Patent No. 6,160,978; "Tsuruoka")

The Tsuruoka document appears to disclose an image forming apparatus having an endless belt (Abstract, lines 1-2). The endless belt is not an endless

photoreceptor belt, but an endless transfer belt (Abstract, lines 11-14; "Indicia is arranged on an outer perimeter surface of the endless transfer belt, with a sensor used to indicate the indicia."). The Tsuruoka document appears to further indicate that the endless belt is an intermediate transfer belt 4 (Figures 18 and 22; Col. 1, lines 43, 47, 50, and 51). The Tsuruoka document seems to indicate that item 1 is a photosensitive drum (Figure 9; Col. 1, lines 37 and 41).

Furthermore, Applicants cannot find sufficient motivation within the Tsuruoka document or the Daniele document to support a combination that would render obvious the subject matter of independent Claims 10 or 11. As explained above, Claim 10, as amended, claims the sensor detecting light pulses reflected from the code strip to track the movement of the photoconductor member and the sensor generating a digital signal.

As also described above, Claim 11, as amended, claims a code strip with transparent or translucent markings alternating with opaque or translucent markings.

Because Claim 12 is multiply dependent upon either Claim 10 or Claim 11, Applicants respectfully submit that Claim 12 is not render obvious by the combination of the Daniele document and the Tsuruoka document.

Therefore, Applicants respectfully request that the Examiner remove the rejection to dependent Claim 25 and find Claim 25 allowable.

Claim 14 is dependent upon independent Claim 13, as amended. For at least the same reasons given above for Claim 12, Applicants respectfully suggest that the rejection of Claim 14 be withdrawn and a notice of allowance be issued for dependent Claim 14, which is dependent upon independent Claim 13, which is patentable as described above.

Claims 1-5:

The Examiner rejected Claims 1-5 under 35 U.S.C. § 103(a) as being unpatentable over the Daniele document and the Foote document.

The Daniele document, as discussed above regarding the Foote document and Claim 6, does not seem to disclose any motivation to combine the subject matter of the Daniele document with the subject matter of the Foote document as the Daniele document does not disclose or suggest the formation of a toner particle stack.

Additionally, Applicants cannot find any resemblance of a code strip on a photoreceptor belt within the Daniele document or the Foote document, as claimed at line 6 of Claim 1, as amended. The Daniele document states, "Referring particularly to FIG. 2, photoreceptor 10 is provided with a row 81 of fiducial marks in the form of holes 82." (Col. 5, lines 55-57). Despite the holes 82 being called "fiducial marks," the holes 82 are not marks at all, but voids within the photoreceptor 10 (Figures 2 and 10). At a minimum, no code strip is involved in the Daniele document (nor the Foote document).

Therefore, Applicants respectfully request that the Examiner remove the rejection to independent Claim 1 and find Claim 1 allowable.

Claims 2-4 are dependent upon independent Claim 1, as amended. For at least the same reasons given above for Claim 1, Applicants respectfully suggest that the rejection of Claims 1-4 be withdrawn and a notice of allowance be issued for dependent Claims 1-4, which are dependent upon independent Claim 1, which is patentable as described above.

Claim 9:

The Examiner rejected Claim 9 under 35 U.S.C. § 103(a) as being unpatentable over Daniele and Agano.

Applicants cannot find sufficient motivation for the combination of the Daniele document with the Agano document to find a suggestion of the subject matter of Claim 9, as amended.

Particularly, Applicants could not find any suggestion of a code strip within the Daniele document or the Agano document. Neither can Applicants

find fiduciary marks on a code strip affixed to a moving photoreceptor surface, as claimed at lines 2-3 of Claim 9, as amended. Applicants also are unable to find the steps of illuminating sections of the code strip as the fiduciary marks pass under the light emitting diode array; or detecting light reflected from the code strip to track the motion of the photoreceptor, as claimed at lines 11-14 of Claim 9 as amended.

Applicants have amended Claim 9 by inserting subject matter regarding affixing a code strip to a moving photoreceptor surface. This amendment is not made to avoid prior art. The added subject matter is not new matter, but is supported in the original specification in the originally filed Claim 15 (at lines 8-9 of currently amended Claim 15) ("the code strip affixed onto the image carrying member").

Applicant respectfully submits that amended Claim 19 is patentably distinguished over the Daniele document and the Agano document for at least the foregoing reasons. Therefore, Applicants respectfully request entrance of this amendment, removal of the rejection, and allowance of amended Claim 9.

Non-Statutory Double Patenting Rejection

The Examiner rejected Claim 10 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 4,837,636.

As explained above, Applicants have amended Claim 10. The amendment of Claim 10 has not been made to avoid the rejection under the judicially created doctrine of obviousness-type double patenting. Nevertheless, Applicants respectfully submit that Claim 10, as amended, is currently patentably distinct from claim 1 of U.S. Patent No. 4,837,636. Thus, Applicants request that the Examiner enter the amendments, remove this rejection, and find Claim 10, as amended, allowable.

Claim 13:

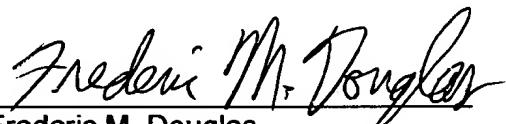
The Examiner rejected Claim 13 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 6 of U.S. Patent No. 4,837,636.

As explained above, Applicants have amended Claim 13. The amendment of Claim 13 has not been made to avoid the rejection under the judicially created doctrine of obviousness-type double patenting. Nevertheless, Applicants respectfully submit that Claim 13, as amended, is currently patentably distinct from claim 6 of U.S. Patent No. 4,837,636. Thus, Applicants request that the Examiner enter the amendments, remove this rejection, and find Claim 13, as amended, allowable.

CONCLUSION

Entry of the amendments to the specification and the claims is respectfully requested. Reconsideration and withdrawal of the Office Action with respect to Claims 1-25 is respectfully requested. Applicants respectfully request the prompt issuance of a notice of allowance of all claims. In the event the examiner wishes to discuss any aspect of this response, please contact the attorney at the telephone number identified below.

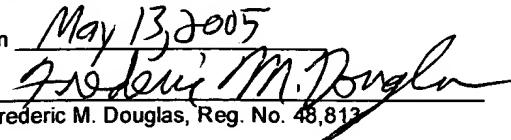
Respectfully submitted,

5-13-05
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